AMENDMENTS TO THE CLAIMS

Listing of claims:

1. (Currently Amended) A method for developing an optimal sales plan for multiple products with multiple price classes contingent on different possible realizations of uncertain demand over multiple time periods ~~with the objective of~~ for maximizing ~~expected~~ revenue over a constrained capacity, comprising:

    ~~formulating a multistage stochastic program that generates a quantity~~ determining an allocation of each of the multiple products across the multiple price classes to be sold in each of the multiple time periods ~~and a recommendation for whether to accept an order for at least one of the multiple products at a time when demand exceeds a planned sales volume at least one of the multiple time periods~~;

    estimating a likelihood that the demand for each of the multiple products ~~the at least one of the multiple time periods~~ exceeds the ~~planned sales volume~~ allocation at the price class for each of the multiple time periods;

    collecting realized order data for the multiple products at each of the multiple price classes and for each of the multiple time periods; and

    ~~executing the multistage stochastic program using~~ generating a sales plan based on the likelihood and the realized order data ~~to generate a sales plan~~ at each of the multiple price classes and for each of the multiple products within a current time period upon determining that the demand for the at least one of the multiple time periods exceeds the allocation for the given product at the price class; and

    determining an indicator based on the generated sales plan to accept an order for a given product of the multiple products upon determining that the demand exceeds the allocation for the

given product at a price class in at least one of the multiple time periods.

2. (Original) The method of claim 1, wherein collecting realized order data comprises continuously collecting new realized order data and using the likelihood and the new realized order data to generate a revised sales plan.

3. (Currently Amended) The method of claim 1, ~~wherein~~ further comprising formulating a multistage stochastic program comprises formulating the multistage stochastic program using IBM OSL Stochastic Extensions.

4. (Currently Amended) The method of claim 1, ~~wherein~~ further comprising formulating a multistage stochastic program that generates a quantity of each product to be sold in each of the multiple time periods and a recommendation comprises formulating a multistage stochastic program that generates a quantity of each product to be sold in each of the multiple time periods and a recommendation for pricing each of the multiple products.

5. (Currently Amended) The method of claim 1, wherein estimating ~~a~~ the likelihood comprises determining a demand forecast and comparing the demand forecast and the planned sales volume.

6. (Currently Amended) The method of claim 1, ~~wherein executing the multistage stochastic~~ ~~program using the likelihood to generate a sales plan~~ further comprises executing ~~the~~ a multistage stochastic program using the likelihood to generate a sales plan for pricing each of the

3

multiple products.

7. (Original) The method of claim 1, wherein collecting realized order data comprises collecting realized order data from an Internet website.

8. (Original) The method of claim 1, wherein collecting realized order data comprises collecting realized order data from a point-of-sale terminal.

9. (Original) The method of claim 1, wherein collecting realized order data comprises collecting realized order data from a reverse auction.

10. (Original) The method of claim 1, further comprising keeping a counter of the quantity of realized order data being collected.

11. (Previously Presented) The method of claim 10, further comprising calculating a confidence level representing a probability that the realized order data will be outside the range of a confidence interval.

12. (Previously Presented) The method of claim 11, wherein the confidence level is calculated using a normal distribution program upon determining that the counter has a value above a threshold.

13. (Previously Presented) The method of claim 11, wherein the confidence level is calculated

using a gamma distribution program upon determining that the counter has a value below a threshold.

14. (Canceled)

15. (Currently Amended) An apparatus for developing an optimal sales plan for multiple products with multiple price classes contingent on different possible realizations of uncertain demand over multiple time periods with the objective of maximizing expected revenue over a constrained capacity, comprising:

      a stochastic programming engine for formulating and executing a multistage stochastic program that generates (i) a strategic decision model for prescribing a quantity of each product to be sold in each of the multiple time periods, and (ii) a tactical decision model for generating ~~recommendation for whether~~ an indicator to accept an order for at least one of the multiple products according to the sales plan at a time when demand exceeds a planned sales volume for at least one of the multiple time periods; and

      a trigger engine determining that a demand scenario is realized for a given time period and providing an indication of when to re-determine the sales plan upon determining that ~~for estimating a likelihood that~~ the demand scenario for ~~at least one of the multiple~~ the given time ~~periods~~ period exceeds the planned sales volume, wherein the sales plan is used by the tactical decision model for generating the indicator and for determining a supply of the multiple products in the multiple price classes.

16. (Original) The apparatus of claim 15, wherein the trigger engine comprises a set of decision

variables.

17. (Original) The apparatus of claim 16, wherein the set of decision variables comprising:

a variable indicating the planned sales volume of one of the multiple products in one of the multiple price classes;

a variable indicating the quantity of one of the multiple products in one of the multiple price classes manufactured in a current time period to be sold in a next time period; and

a variable indicating the quantity of one of the multiple products in one of the multiple price classes manufactured in the current time period to be sold in the current time period.

18. (Original) The apparatus of claim 15, wherein the strategic decision model comprises:

a profit function that accounts for total revenue for each of multiple products, wherein the profit function comprises:

a production constraint;

a demand constraint; and

a service level constraint.

19. (Original) The apparatus of claim 18, wherein the profit function further comprises an on-hand inventory constraint.

20. (Currently Amended) A machine-readable medium having instructions stored thereon for execution by a processor to perform a method of developing an optimal sales plan for multiple products with multiple price classes contingent on different possible realizations of uncertain

demand over multiple time periods with the objective of maximizing expected revenue over a constrained capacity, comprising:

~~formulating a multistage stochastic program that generates a quantity~~ determining an allocation of each of the multiple products across the multiple price classes to be sold in each of the multiple time periods ~~and a recommendation for whether to accept an order for at least one of the multiple products at a time when demand exceeds a planned sales volume at least one of the multiple time periods~~;

estimating a likelihood that the demand for each of the multiple products ~~the at least one of the multiple time periods~~ exceeds the ~~planned sales volume~~ allocation at the price class for each of the multiple time periods;

collecting realized order data for the multiple products at each of the multiple price classes and for each of the multiple time periods; and

~~executing the multistage stochastic program using~~ generating a sales plan based on the likelihood and the realized order data ~~to generate a sales plan~~ at each of the multiple price classes and for each of the multiple products within a current time period upon determining that the demand for the at least one of the multiple time periods exceeds the allocation for the given product at the price class; and

determining an indicator based on the generated sales plan to accept an order for a given product of the multiple products upon determining that the demand exceeds the allocation for the given product at a price class in at least one of the multiple time periods.